

WHAT IS CLAIMED IS:

1. A hybrid antigen comprising at least one antigenic domain of an infectious agent or tumor antigen, at least one binding domain that non-covalently binds to a heat shock protein, and at least one peptide linker there between selected from the group consisting of Phe Phe Arg Lys (FFRK; SEQ ID NO:699); Phe Arg Lys (FRK); Phe Arg Lys Asn (FRKN, SEQ ID NO:701); Arg Lys Asn (RKN); Phe Phe Arg Lys Asn (FFRKN, SEQ ID NO:702); Phe Arg (FR), Gln Leu Lys (QLK), Gln Leu Glu (QLE), Ala Lys Val Leu (AKVL; SEQ ID NO:700); Lys Asn (KN); Arg Lys (RK); or AA<sub>1</sub>-AA<sub>2</sub>-AA<sub>3</sub>-leucine (SEQ ID NO:9), wherein AA1 is A, S, V, E, G, L, or K, AA2 is K, V, or E; and AA3 is V, S, F, K, A, E, or T.
2. A composition for inducing an immune response to an infectious agent or tumor antigen comprising at least one hybrid antigen of Claim 1.
3. A composition for inducing an immune response to an infectious agent or tumor antigen comprising a complex of at least one heat shock protein and at least one hybrid antigen of Claim 1.
4. The composition of claim 3 wherein the heat shock protein is a hsp70.
5. A method for inducing an immune response to an infectious agent or tumor antigen comprising administering to a subject at least one hybrid antigen of Claim 1.
6. A method for inducing an immune response to an infectious agent or tumor antigen comprising administering to a subject a complex of:
  - (a) a hybrid antigen of Claim 1; and
  - (b) a heat shock protein;wherein the hybrid antigen and the heat shock protein are non-covalently bound.
7. The method of claim 6 wherein the heat shock protein is a hsp70.

8. A method for treating an infectious disease or cancer comprising administering to a subject at least one hybrid antigen of Claim 1, wherein at least one antigenic domain is from the infectious disease or cancer.

5 9. A method for treating an infectious disease or cancer comprising administering to a subject a complex of:

- (a) a hybrid antigen of Claim 1, wherein at least one antigenic domain is from the infectious disease or cancer; and
- (b) a heat shock protein;

10 wherein the hybrid antigen and the heat shock protein are non-covalently bound.

10. The method of claim 9 wherein the heat shock protein is a hsp70.

11. A hybrid antigen consisting essentially of at least one antigenic domain of an infectious agent or tumor antigen, at least one binding domain that non-covalently binds to a heat shock protein, and at least one peptide linker there between, and wherein peptide linker is selected from the group consisting of Phe Phe Arg Lys (FFRK; SEQ ID NO:699); Phe Arg Lys (FRK); Phe Arg Lys Asn (FRKN, SEQ ID NO:701); Arg Lys Asn (RKN); Phe Arg Lys Asn (FFRKN, SEQ ID NO:702); Phe Arg (FR), Gln Leu Lys (QLK), Gln Leu Phe Arg Lys Asn (AKVL; SEQ ID NO:700); Lys Asn (KN); Arg Lys (RK); or Glu (QLE), Ala Lys Val Leu (AA1-AA<sub>2</sub>-AA<sub>3</sub>-leucine (SEQ ID NO:9), wherein AA1 is A, S, V, E, G, L, or K, AA2 is K, V, or E; and AA3 is V, S, F, K, A, E, or T.

12. A composition for inducing an immune response to an infectious agent or tumor antigen comprising at least one hybrid antigen of Claim 11.

13. A composition for inducing an immune response to an infectious agent or tumor antigen comprising a complex of at least one heat shock protein and at least one hybrid antigen of Claim 11.

14. The composition of claim 13 wherein the heat shock protein is a hsp70.

15. A method for inducing an immune response to an infectious agent or tumor antigen comprising administering to a subject at least one hybrid antigen of Claim 11.

5 16. A method for inducing an immune response to an infectious agent or tumor antigen comprising administering to a subject a complex of:

- (a) a hybrid antigen of Claim 11; and
- (b) a heat shock protein;

wherein the hybrid antigen and the heat shock protein are non-covalently bound.

10

17. The method of claim 16 wherein the heat shock protein is a hsp70.

18. A method for treating an infectious disease or cancer comprising administering to a subject at least one hybrid antigen of Claim 11, wherein at least one antigenic domain is 15 from the infectious disease or cancer.

19. A method for treating an infectious disease or cancer comprising administering to a subject a complex of:

- (a) a hybrid antigen of Claim 1, wherein the antigenic domain is from the infectious disease or cancer; and
- (b) a heat shock protein;

20 wherein the hybrid antigen and the heat shock protein are non-covalently bound.

20. The method of claim 19 wherein the heat shock protein is a hsp70.

25

21. A peptide that is Phe Phe Arg Lys (FFRK; SEQ ID NO:699); Phe Arg Lys (FRK); Phe Arg Lys Asn (FRKN, SEQ ID NO:701); Arg Lys Asn (RKN); Phe Phe Arg Lys Asn (FFRKN, SEQ ID NO:702); Phe Arg (FR), Gln Leu Lys (QLK), Gln Leu Glu (QLE), Ala Lys Val Leu (AKVL; SEQ ID NO:700); Lys Asn (KN); Arg Lys (RK); or AA<sub>1</sub>-AA<sub>2</sub>-AA<sub>3</sub>-

leucine (SEQ ID NO:9), wherein AA<sub>1</sub> is A, S, V, E, G, L, or K, AA<sub>2</sub> is K, V, or E; and AA<sub>3</sub> is V, S, F, K, A, E, or T.